

# FPSO Swivels

## 295-X

### *FPSO swivel*

#### **Description**

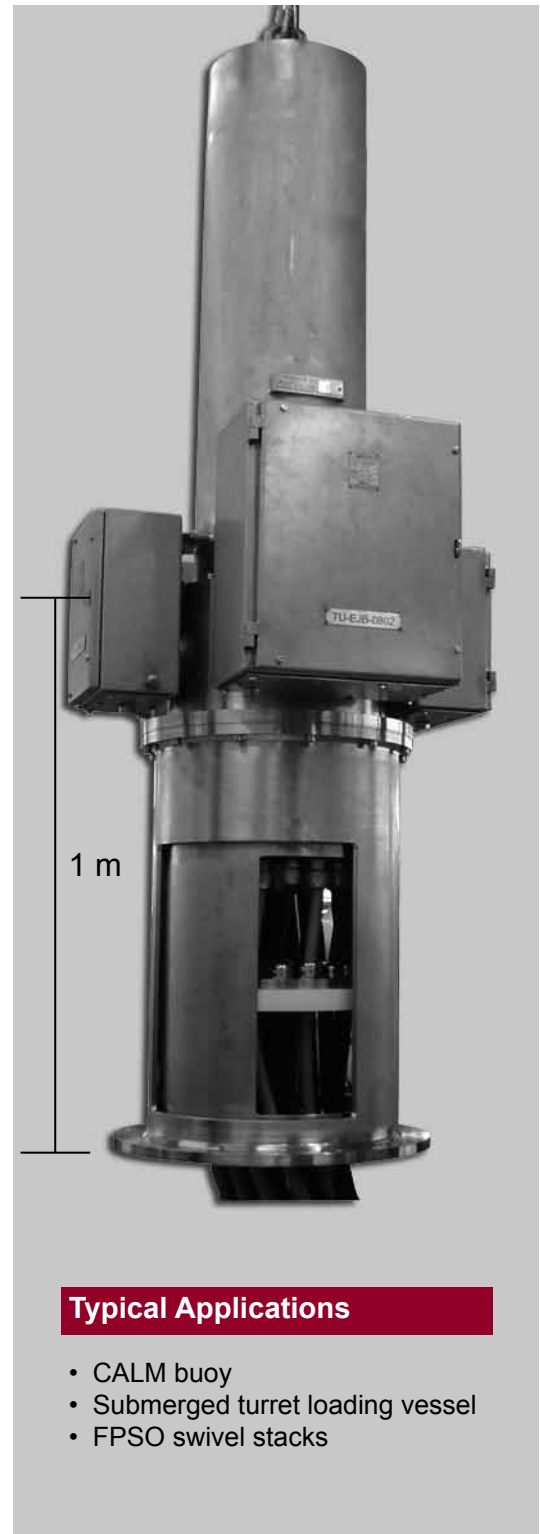
The 295-X is a standardized electrical / optical slip ring designed for the offshore oil industry. This design is type certified for hazardous area environments allowing for shorter design customization and assembly time. Available in sizes ranging to a maximum overall length of approximately 140 inches (3.5 m) and overall diameter of 12 inches (300 mm), this model meets the needs to transfer utility power, electrical and optical signals on a variety of offshore swivel applications.

#### **Features**

- 316 stainless steel housing available for corrosion resistance
- Hazardous area certified in accordance with European Community ATEX directive 94 / 9 / EC
- Standardized design can accommodate variety of cable entry methods

#### **Benefits**

- Each unit is designed, manufactured, and tested in accordance with the highest quality standards
- Integration with fiber optic rotary joints and fluid rotary unions to provide a complete rotating interface solution
- Design customization to meet both customer and marine authority specifications



#### **Typical Applications**

- CALM buoy
- Submerged turret loading vessel
- FPSO swivel stacks

**FOCAL™**

Electrical	
295-X is rated in accordance with customer requirements	
<b>Voltage</b>	Maximum 5000 VAC
<b>Current</b>	Designed to customer specifications

Electrical Power Performance	
295-X power performance is design in accordance with customer specifications and Certifying Authority requirements	
<b>Flashover Voltage</b>	Typically 4x V <sub>rated</sub>
<b>Insulation Resistance</b>	This will vary depending on design specifications. Contact factory for further details.
<b>Short Circuit Rating</b>	

Electrical Signal Performance	
<b>Contact Resistance</b>	20 mΩ nominal
<b>Insulation Resistance<sup>1</sup></b>	Minimum 500 MΩ @ 1 kVDC
<b>Insertion Loss<sup>2</sup> (Nominal) RG59 coax</b>	1.5 dB maximum up to 30 MHz
<b>Crosstalk<sup>2</sup> (Nominal) RG59 coax</b>	-15 dB maximum up to 30 MHz
<sup>1</sup> Value dependent on wire type.	
<sup>2</sup> Performance depends on configuration of signal circuits.	

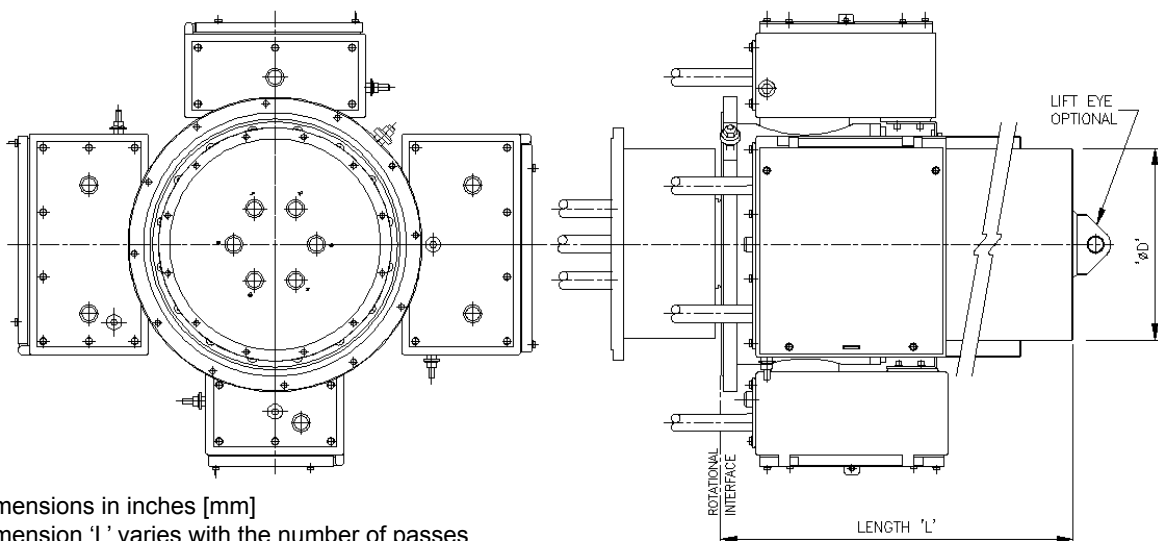
Mechanical	
<b>Rotation Speed</b>	Maximum 50 rpm continuous <sup>1</sup>
<b>Protection Class</b>	IP 66
<b>Operating Temperature</b>	-20 °C to + 55 °C
<b>Housing</b>	Stainless steel (304)
<b>Length "L"</b>	Varies with number of electrical passes
<sup>1</sup> Higher rotational speeds possible. Please consult factory.	

Hazardous Area Option: 295-X	
<b>KEMA Designation for ATEX certified unit.</b>	ATEX CE Ⓜ II 2 G Ex d IIB T5

Terminations	
<b>Standard</b>	Integral armoured cables on the geo stationary side, increased safety junction boxes on the rotating side
<b>Special<sup>1</sup></b>	Supply and installation of connectors, terminals, conduit, cable, glands, junction boxes
<sup>1</sup> Integration of customer supplied product possible	

Additional Options	
<b>Fiber Optics</b>	Fiber Optic Rotary Joint (FORJ) or Optical Converter
<b>Fluid</b>	Fluid Rotary Union (FRU)
<b>Design Certification</b>	ABS, DNV, BV, LRS
<b>Submersed Applications</b>	Fluid filling fittings or fluid filled / pressure compensated at factory
<b>Other Devices<sup>1</sup></b>	RF Rotary Joint, Shaft Encoder, Sensors, Heat Trace Cable
<b>Ingress Protection</b>	IP 68
<b>Extended Temperature Range</b>	
<sup>1</sup> Integration of customer supplied product possible	

## FO295-X Dimensions



1. Dimensions in inches [mm]
2. Dimension 'L' varies with the number of passes
3. Dimension 'Ø D' maximum 12.75 [323.8]
4. Customer interface and drive arrangement may vary.